

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

NORMAL



Machine Age   hrs   Client Info   9449   9413   9137     oil Age   hrs   Client Info   1091   555   279     oil Age   client Info   1091   555   279     out Changed   Client Info   Changed   Not Changed   Not Changed     y contamination in the   CONTAMINATION   method   Imutbase   ourrent   history1   History2     Fuel   WC Method   3.0   <1.0   <1.0   <1.0   <1.0     Nith The condition of the vice.   WEAR   MC Method   3.0   <1.0   <1.0   <1.0     Nith The condition of the vice.   Wear   WC Method   3.0   <1.0   <1.0   <1.0     Nith The condition of the vice.   Wear   WC Method   3.0   <1.0   <1.0   <1.0     Nith The condition of the vice.   Wear   MC Method   3.0   <1.0   <1.0   <1.0   <1.0     Nith Condition   ppm   ASTM DS1550   >160   0   <1.0   <1.0   <1.0<		·					
ce interval to monitor.   Sample Date   Client Info   31 May 2024   28 May 2024   18 Apr 2024     Machine Age   hrs   Client Info   9449   9413   9137     are normal.   Ol Age   hrs   Client Info   1091   555   279     out Changed   Client Info   1091   555   279   Not Changed   Not Change   Not Change   Not Change <td></td> <td>SAMPLE INFORMA</td> <td>TION method</td> <td>limit/base</td> <td>current</td> <td>history1</td> <td>history2</td>		SAMPLE INFORMA	TION method	limit/base	current	history1	history2
Are normal.Machine Age Di Age Di Changed Lic Changed Sample StatusClient Info9499439137y contamination in the there is suitable ty contamination in the by the suitable of the sui		Sample Number	Client Info		GFL0122191	GFL0122180	GFL0118013
are normal.   Oil Age   hrs   Client Info   1091   555   279     Oil Changed   Oil Changed   Client Info   Changed   Not Change   Not Changed   Not Changed <td>ice interval to monitor.</td> <td>Sample Date</td> <td>Client Info</td> <td></td> <td>31 May 2024</td> <td>28 May 2024</td> <td>18 Apr 2024</td>	ice interval to monitor.	Sample Date	Client Info		31 May 2024	28 May 2024	18 Apr 2024
Oil Changed Client Info Changed Not Changed Not Changed Not Changed Not Changed   y contamination in the tit there is suitable vice. CONTAMINATION method imit/base current history1 history2   Fuel WC Method >3.0 <1.0		Machine Age h	rs Client Info		9449	9413	9137
Sample Status   NORMAL   NORMAL   NORMAL   NORMAL     it there is suitable sit. The condition of the vise.   CONTAMINATION   method   Imit/base   current   history1   history2     Fuel   WC Method   >3.0   <1.0	are normal.	Oil Age h	rs Client Info		1091	555	279
CONTAMINATION   method   imit/base   current   history1   history2     Fuel   WC Method   >3.0   <1.0		Oil Changed	Client Info		Changed	Not Changd	Not Changd
Fuel   WC Method   >3.0   <1.0   <1.0   <1.0     Water   WC Method   >0.2   NEG   NEG   NEG     Glycol   WC Method   >0.2   NEG   NEG   NEG     WEAR METALS   method   imit/base   current   history1   history2     Iron   ppm   ASTM D5186m   >5   0   <16	y contamination in the	Sample Status			NORMAL	NORMAL	NORMAL
Water   WC Method   >0.2   NEG   NEG   NEG   NEG     Water   Glycol   WC Method   NEG   NEG   NEG   NEG     Glycol   WC Method   MEG   NEG   NEG   NEG   NEG     Iron   ppm   ASTM D5185m   >165   0   16   10     Chromium   ppm   ASTM D5185m   >4   0   0   0     Nickel   ppm   ASTM D5185m   >2   0   0   0     Silver   ppm   ASTM D5185m   >20   0   0   0     Aluminum   ppm   ASTM D5185m   20   0   0   0     Copper   ppm   ASTM D5185m   20   0   0   0     Copper   ppm   ASTM D5185m   20   0   0   0     Cadmium   ppm   ASTM D5185m   0   0   0   0     ADDITIVES   method   Imit/base   current   History1		CONTAMINATIO	N method	limit/base	current	history1	history2
Magnetic   Water   WC Method   >0.2   NEG   NEG   NEG     Glycol   WC Method   WE Method   NEG   NEG   NEG     WEAR METALS   method   limit/base   current   history2     Iron   ppm   ASTM D5186m   >165   0   -1   <1	t thoro is suitable	Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol   WC Method   NEG   NEG   NEG     VVEAR METALS   method   imit/base   current   history1   history2     Iron   ppm   ASTM D5186m   >165   0   16   10     Chromium   ppm   ASTM D5186m   >4   0   0   0     Nickel   ppm   ASTM D5186m   >2   0   0   0     Nickel   ppm   ASTM D5186m   >2   0   0   0     Auminum   ppm   ASTM D5186m   >2   0   0   0   0     Auminum   ppm   ASTM D5186m   >150   0   0   <1		Water	WC Method	>0.2	NEG	NEG	NEG
Iron   ppm   ASTM D5185m<>165   0   16   10     Chromium   ppm   ASTM D5185m<>-5   0   <1   <1     Nickel   ppm   ASTM D5185m   >2   0   0   0     Tittanium   ppm   ASTM D5185m   >2   0   0   0     Silver   ppm   ASTM D5185m   >20   <1   2   2     Lead   ppm   ASTM D5185m   >20   0   0   <11     Tin   ppm   ASTM D5185m   >20   0   0   <11     Tin   ppm   ASTM D5185m   >5   0   0   <11     Tin   ppm   ASTM D5185m   >5   0   0   <11     Cadmium   ppm   ASTM D5185m   0   0   0   0   0     ADDITIVES   ppm   ASTM D5185m   0   0   0   0   0     Magnesium   ppm   ASTM D5185m   0   0   0   0		Glycol	WC Method		NEG	NEG	NEG
Chromium   ppm   ASTM D5185m   >5   0   <1   <1     Nickel   ppm   ASTM D5185m   >4   0   0   0     Titanium   ppm   ASTM D5185m   >2   0   0   0     Silver   ppm   ASTM D5185m   >2   0   0   0     Auminum   ppm   ASTM D5185m   >20   <1		WEAR METALS	method	limit/base	current	history1	history2
Nickel   ppm   ASTM D5185m   >4   0   0   0     Titanium   ppm   ASTM D5185m   >2   0   0   0     Silver   ppm   ASTM D5185m   >2   0   0   0     Aluminum   ppm   ASTM D5185m   >150   0   0   <1		lron p	pm ASTM D5185m	>165	0	16	10
Nickel   ppm   ASTM D5185m   >-4   0   0   0     Titanium   ppm   ASTM D5185m   >-2   0   0   0     Silver   ppm   ASTM D5185m   >-2   0   0   0     Aluminum   ppm   ASTM D5185m   >150   0   0   <1				>5		<1	<1
Titanium   ppm   ASTM D5185m   >2   0   0   0     Silver   ppm   ASTM D5185m   >20   0   0     Aluminum   ppm   ASTM D5185m   >20   21   2   2     Lead   ppm   ASTM D5185m   >20   0   0   1     Tin   ppm   ASTM D5185m   >90   0   1   1     Tin   ppm   ASTM D5185m   >5   0   0   1     Cadmium   ppm   ASTM D5185m   0   0   0   1     Boron   ppm   ASTM D5185m   0   4   9   8     Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   1120     Phosphorus   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m					0	0	0
Aluminum   ppm   ASTM D5185m   >20   <1   2   2     Lead   ppm   ASTM D5185m   >150   0   0   <1				>2	0	0	0
Aluminum   ppm   ASTM D5185m   >20   <1   2   2     Lead   ppm   ASTM D5185m   >150   0   0   <1		Silver p	pm ASTM D5185m	>2	0	0	0
Copper   ppm   ASTM D5185m   >90   0   <1   1     Tin   ppm   ASTM D5185m   >5   0   0   <1				>20	<1	2	2
Copper   ppm   ASTM D5185m   >90   0   <1   1     Tin   ppm   ASTM D5185m   >5   0   0   <1		Lead p	pm ASTM D5185m	>150	0	0	<1
Tin   ppm   ASTM D5185m   >5   0   0   <1     Vanadium   ppm   ASTM D5185m   0   0   <1				>90	0	<1	1
Cadmium   ppm   ASTM D5185m   0   0   0     ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   0   4   9   8     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   0   0   0   0   11     Maganesium   ppm   ASTM D5185m   0   0   0   <11				>5	0	0	<1
Cadmium   ppm   ASTM D5185m   0   0   0     ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   0   4   9   8     Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   60   63   63     Magnesium   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m   1070   1068   1058   1120     Phosphorus   ppm   ASTM D5185m   1070   1068   1058   1120     Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   26   4   3     Sodium   ppm   ASTM D5185m   22   4   3     Sodium   ppm   ASTM D5185m   20   <1		Vanadium p	pm ASTM D5185m		0	0	<1
Boron   ppm   ASTM D5185m   0   4   9   8     Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   60   63   63     Manganese   ppm   ASTM D5185m   0   0   0   0   <1     Magnesium   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m   1070   1068   1058   1120     Phosphorus   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   <1   2   2     Sodium   ppm					0		
Barium   ppm   ASTM D5185m   0   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   60   63   63     Manganese   ppm   ASTM D5185m   0   0   0   <1		ADDITIVES	method	limit/base	current	history1	history2
Molybdenum   ppm   ASTM D5185m   60   60   63   63     Manganese   ppm   ASTM D5185m   0   0   0   <1		Boron p	pm ASTM D5185m	0	4	9	8
Manganese   ppm   ASTM D5185m   0   0   0   <1     Magnesium   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m   1070   1068   1058   1120     Phosphorus   ppm   ASTM D5185m   1150   1016   974   1002     Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >35   2   4   3     Potassium   ppm   ASTM D5185m   >20   <1		Barium p	pm ASTM D5185m	0	0	0	0
Magnesium   ppm   ASTM D5185m   1010   878   849   898     Calcium   ppm   ASTM D5185m   1070   1068   1058   1120     Phosphorus   ppm   ASTM D5185m   1150   1016   974   1002     Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >35   2   4   3     Sodium   ppm   ASTM D5185m   >20   <1		Molybdenum p	pm ASTM D5185m	60	60	63	63
Calcium   ppm   ASTM D5185m   1070   1068   1058   1120     Phosphorus   ppm   ASTM D5185m   1150   1016   974   1002     Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >35   2   4   3     Sodium   ppm   ASTM D5185m   >20   <1		Manganese p	pm ASTM D5185m	0	0	0	<1
Phosphorus   ppm   ASTM D5185m   1150   1016   974   1002     Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >35   2   4   3     Sodium   ppm   ASTM D5185m   >35   2   4   3     Potassium   ppm   ASTM D5185m   >20   <11   2   2     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >7.5   0.1   0.6   0.4     Nitration   Abs/cm   *ASTM D7624   >20   4.5   8.8   6.7     Sulfation   Abs/Lmm   *ASTM D7644   >20   4.5   8.8   6.7     Sulfation   Abs/Lmm   *ASTM D7644<		Magnesium p	pm ASTM D5185m	1010	878	849	898
Zinc   ppm   ASTM D5185m   1270   1201   1166   1164     Sulfur   ppm   ASTM D5185m   2060   3527   3178   3486     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >35   2   4   3     Sodium   ppm   ASTM D5185m   >35   2   4   3     Potassium   ppm   ASTM D5185m   >20   <1		Calcium p	pm ASTM D5185m	1070	1068	1058	1120
SulfurppmASTM D5185m2060352731783486CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35243SodiumppmASTM D5185m>35243PotassiumppmASTM D5185m>20<1		Phosphorus p	pm ASTM D5185m	1150	1016	974	1002
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>35243SodiumppmASTM D5185m>35243PotassiumppmASTM D5185m>20<1			pm ASTM D5185m	1270	1201	1166	1164
SiliconppmASTM D5185m>35243SodiumppmASTM D5185m<		Sulfur p	pm ASTM D5185m	2060	3527	3178	3486
Sodium   ppm   ASTM D5185m   <1   4   3     Potassium   ppm   ASTM D5185m   >20   <1		CONTAMINANTS	S method	limit/base	current	history1	history2
Potassium   ppm   ASTM D5185m   >20   <1   2   2     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >7.5   0.1   0.6   0.4     Nitration   Abs/cm   *ASTM D7624   >20   4.5   8.8   6.7     Sulfation   Abs/.1mm   *ASTM D7415   >30   16.7   19.2   18.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		Silicon p	pm ASTM D5185m	>35	2	4	3
INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >7.5   0.1   0.6   0.4     Nitration   Abs/cm   *ASTM D7624   >20   4.5   8.8   6.7     Sulfation   Abs/.1mm   *ASTM D7415   >30   16.7   19.2   18.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		Sodium p	pm ASTM D5185m		<1	4	3
Soot %   %   *ASTM D7844   >7.5   0.1   0.6   0.4     Nitration   Abs/cm   *ASTM D7624   >20   4.5   8.8   6.7     Sulfation   Abs/.1mm   *ASTM D7415   >30   16.7   19.2   18.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		Potassium p	pm ASTM D5185m	>20	<1	2	2
Nitration   Abs/cm   *ASTM D7624   >20   4.5   8.8   6.7     Sulfation   Abs/.1mm   *ASTM D7415   >30   16.7   19.2   18.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		INFRA-RED	method	limit/base	current	history1	history2
SulfationAbs/.1mm*ASTM D7415>3016.719.218.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2511.714.713.2		Soot %	% *ASTM D7844	>7.5	0.1	0.6	0.4
Sulfation   Abs/.1mm   *ASTM D7415   >30   16.7   19.2   18.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		Nitration A	bs/cm *ASTM D7624	>20	4.5	8.8	6.7
Oxidation   Abs/.1mm   *ASTM D7414   >25   11.7   14.7   13.2		Sulfation Al	os/.1mm *ASTM D7415	>30		19.2	18.1
		FLUID DEGRADA	TION method	limit/base	current	history1	history2
		Oxidation Al	os/.1mm *ASTM D7414	>25	11.7	14.7	13.2
		Base Number (BN) m	g KOH/g ASTM D2896	9.8		7.5	8.0

# Area (EGX027) 2870

Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (7 GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next serv

#### Wear

All component wear rates

#### Contamination

There is no indication of an oil.

#### Fluid Condition

The BN result indicates that alkalinity remaining in the c oil is suitable for further set

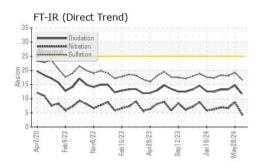


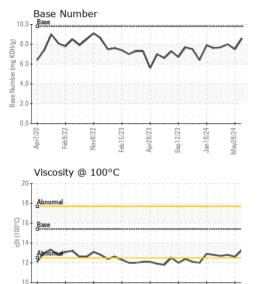
Apr7/20

C (1) P Ha

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# **OIL ANALYSIS REPORT**





eb15/23

or28/23

Sep12/23

Jan 18/24

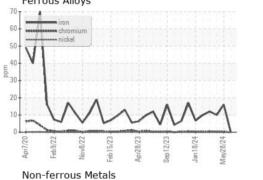
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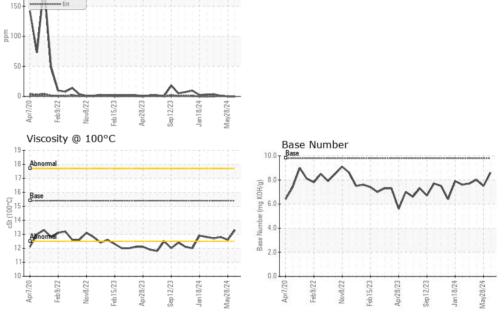
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	12.6	12.8
GRAPHS						

Ferrous Alloys

lead

200





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. : GFL0122191 Received : 03 Jun 2024 1280 Rum Creek Parkway Lab Number : 06197294 Tested : 03 Jun 2024 Stockbridge, GA Unique Number : 11059417 Diagnosed : 03 Jun 2024 - Wes Davis US 30281 Test Package : FLEET Contact: TECHNICIAN ACCOUNT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wcgfldemo@gmail.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL010 [WUSCAR] 06197294 (Generated: 06/03/2024 17:43:13) Rev: 1

Submitted By: JOSHUA TINKER Page 2 of 2